

Method for manufacturing ceramic-based composite material

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Inventor: YOSHIDA TAKASHI (JP); NISHIDE SHIGETO (JP)

Applicant: (SHIKAWAJIMA HARIMA HEAVY IND (JP)

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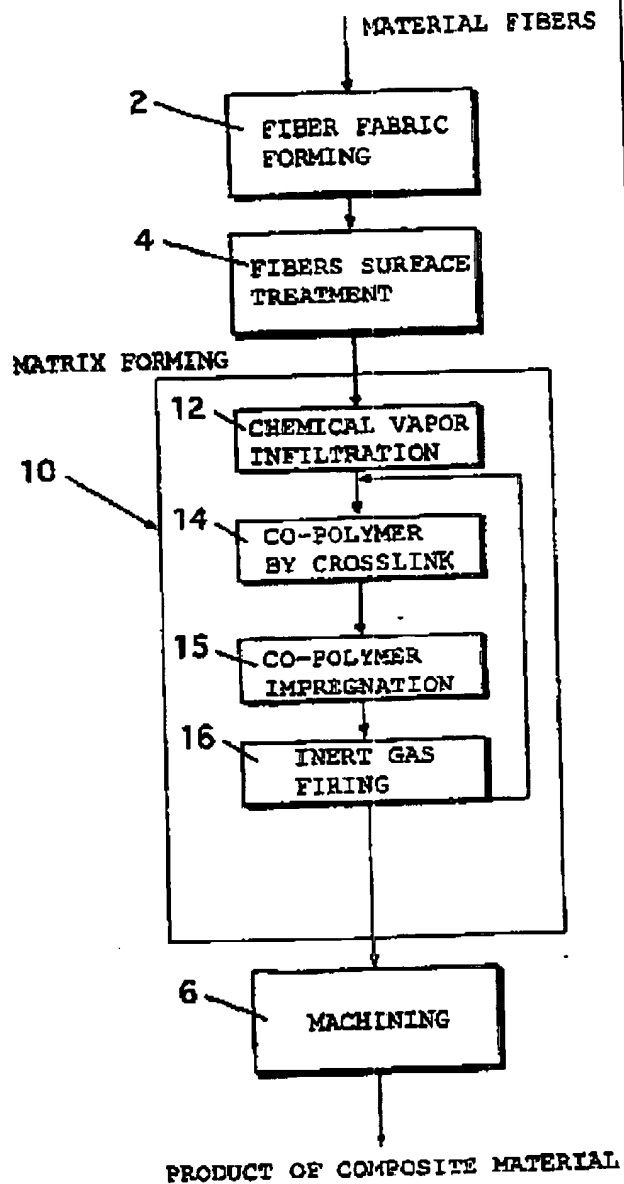
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Abstract of EP1063210

A matrix formation process 10 is configured with CVI process 12 and PIP process 14, 15, 16 in which a co-polymer containing at least polycarboxysilane (PCS) and polymethylsilane (PMS) is applied. Crosslinking of each polymer is performed at an intermediate temperature which is lower than the pyrolysis temperature of the polymeres. Polymer impregnation process 15 for infiltrating the co-polymer into a matrix, and inert gas firing process 16 for firing the material at a high temperature in an inert gas atmosphere. In the crosslink process, the mixed polymer is held at about 573K to 723K for a predetermined time. The conversion ratio of the co-polymer crosslinked into SiC in the subsequent firing process is increased, efficiency of filling SiC in the PIP process is increased, and an airtight ceramic-based composite material can be manufactured efficiently within a short time.

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Fig. 1



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